

Changing worker demographics lead to changing injury characteristics

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Research and Statistics

One of the major issues facing workers' compensation policy-makers and professionals is the effect of the aging work force on the workers' compensation system. Labor force projections for Minnesota show that from 2000 to 2010, the number of workers age 25 to 44 will decrease by 0.4 percent, while the number of workers age 45 to 64 will increase by 39.2 percent.¹

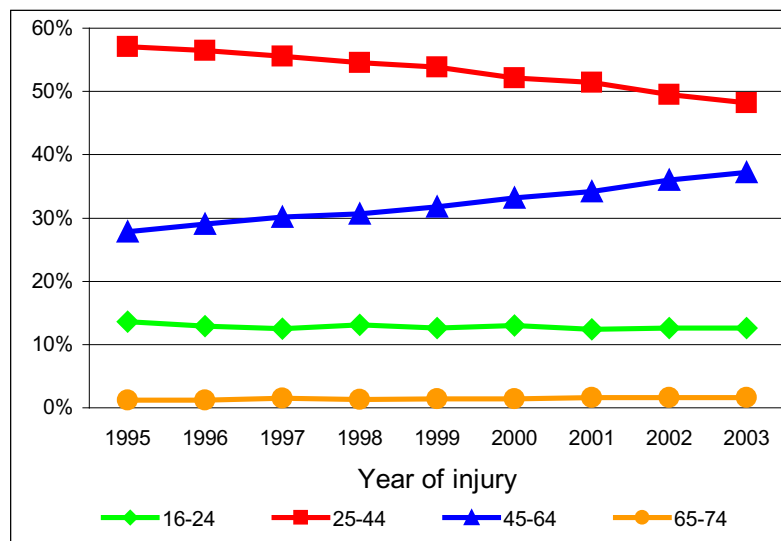
Will the aging of the work force lead to an increasing or decreasing number of injuries? Will the types of injuries change? Will the duration and costs of claims increase? Will return-to-work programs need to be modified? These are difficult questions, requiring much analysis and a thorough understanding of the work patterns and injuries of different age groups.

This article provides some basic information for addressing these issues and describes some of the effects of the aging work force on Minnesota's workers' compensation system. The changing age distribution of workers receiving indemnity benefits is examined and job and injury characteristics are presented, and comparisons are made for injured workers in the 25- to 44-year-old and 45- to 64-year-old age groups. All statistics were derived from the Department of Labor and Industry's workers' compensation claims database.

Age distribution

The average age of injured workers with indemnity claims has increased from 38.5 years in 1995 to 41.0 years in 2003. As shown in Figure 1, since 1995 there is a decreasing percentage of injured workers in the 25- to 44-year age group and an increasing percentage of injured workers in the 45- to 64-year age group. The percentage of injured workers in the 25- to 44-year age group decreased from 57 percent in 1995 to 48 percent in 2003. In contrast, the percentage of injured workers in the 45- to 64-year age group increased from 28 percent in 1995 to 37 percent in 2003.

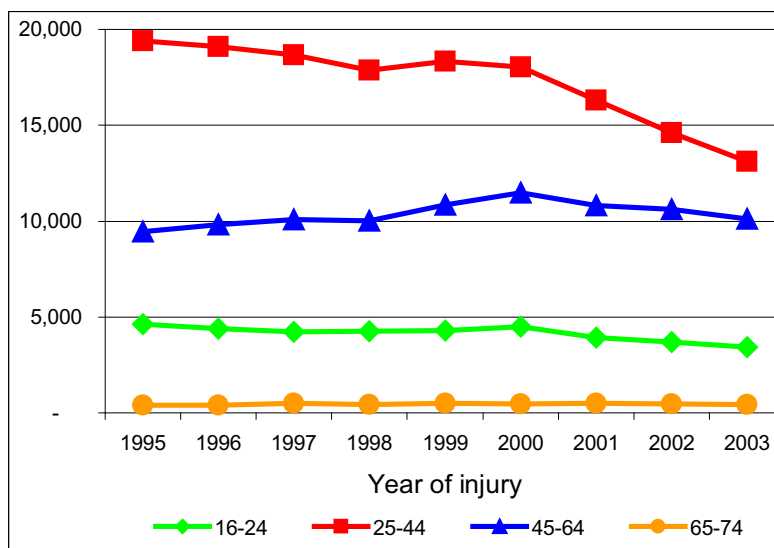
Figure 1: Percentage distribution of injured workers by age group



Demographics, continues ...

Because the overall number of claims and the rate of claims among all employed workers is declining,² a slightly different pattern emerges when the number of injured workers³ in each age group is examined. Figure 2 shows that from 1995 to 2003, the number of injured workers in the 25- to 44-year age group decreased by 32 percent, from 19,400 to 13,100, while the number of injured workers in the 45- to 64-year age group increased by 7 percent, from 9,500 to 10,100. However, since 2000, the number of injured workers in the 45- to 64-year age group has decreased by 12 percent.

Figure 2: Numeric distribution of injured workers by age group



Job characteristics

The types of injuries and illnesses and the events that cause them depend, in large part, on the industries and occupations of the workers. Examination of the industries and occupations of Minnesota's injured workers with indemnity claims in 2003 shows only a few age-related job differences (see Figure 3).

**Figure 3: Industry and occupation by age group
2003 indemnity claims**

	16-24	25-44	45-64	65-74
Industry sector				
Construction	18.9%	14.9%	9.9%	5.5%
Manufacturing	10.7	18.0	18.3	11.5
Trade, transportation and utilities	22.7	25.8	25.6	36.7
Professional and business services	11.7	8.6	7.5	6.0
Educational and health services	17.1	16.9	22.3	21.4
All other industries	18.9	15.9	16.4	19.0
Occupation				
Managerial and professional	6.4%	10.0%	12.9%	9.3%
Service	28.1	18.5	18.5	23.5
Sales and office	8.6	8.5	11.1	19.0
Natural resources, construction and maintenance	25.7	25.6	21.7	15.6
Production and transportation	31.3	37.4	35.8	32.5

By industry, workers in the 45- to 64-year age group had a lower percentage in construction and a higher percentage in educational and health services than did workers in the 25- to 44-year age group. There were no differences among other industries, including manufacturing. By occupation, the most noticeable differences were a lower percentage of injured workers in the 45- to 64-year age group in natural resources, construction and maintenance occupations, and a higher percentage in managerial and professional occupations, compared to injured workers in the 25- to 44-year age group.

Injury characteristics

Injuries and illnesses are categorized according to four dimensions: the nature of the injury or illness; the part of the body affected; the event or exposure leading to the injury; and the source of the injury.

Figure 4 shows the injury characteristics by age group. For indemnity claims that occurred in 2003, injured workers in the 45- to 64-year age group, compared to workers in the 25- to 44-year age group, had:

- lower percentages of cuts and sprains, and higher percentages of fractures and diseases;
- a lower percentage of back injuries and higher percentages of injuries and illnesses including the trunk and body system and to multiple body parts;
- a lower percentage of injuries from contact with objects, such as equipment and parts, and a higher percentage of falls to surfaces.

**Figure 4: Selected injury characteristics by age group
2003 indemnity claims**

	16-24	25-44	45-64	65-74
Nature of injury or illness				
cuts	12.9%	6.5%	4.4%	5.7%
fractures	7.5	5.8	7.6	15.0
sprains and strains	37.7	44.5	40.5	28.8
multiple injuries	3.5	3.3	3.8	6.0
diseases	5.2	7.3	9.7	6.7
Part of body affected				
trunk and body system	9.4%	12.2%	16.8%	20.2%
upper extremities	27.2	22.9	22.4	21.0
lower extremities	22.3	19.5	20.1	21.8
back and spine	28.4	30.5	23.4	14.0
multiple parts	7.3	9.2	11.5	15.5
Event or exposure				
contact with objects	27.2%	17.6%	13.3%	16.6%
falls	14.5	13.9	19.7	35.5
bodily reaction	42.0	53.2	53.3	34.5
Source of injury or illness				
containers	11.7%	12.1%	11.1%	10.6%
machinery	7.5	5.6	5.7	5.2
parts and materials	10.9	9.7	7.2	4.1
injured worker	13.2	20.5	23.7	15.0
structures and surfaces	16.7	15.9	20.8	37.0
tools and equipment	8.3	6.8	5.4	3.9



Figures 3 and 4 show that many of these age group differences are even more pronounced for workers in the 65- to 74-year age group.

Overall, workers age 45 and older have more injuries caused by falls, leading to fractures and multiple body part injuries. However, in absolute terms, these differences are not large and ergonomic-related injuries, such as sprains and strains to the back and upper extremities, will remain the most common injury types for the foreseeable future.

A more complete analysis of the relationship between age and injury would examine differences in job characteristics, differences in the incidence of workplace accidents and differences in the reporting of injuries. If the proper data were available, a study such as this would provide better information about workplace safety.

¹ Minnesota State Demographic Center, Population, Household and Labor Force Projections Web site.

² See *Workers' comp system cost increases during past three years* in this edition of COMPACT, page 2.

³ The worker numbers are developed, meaning they are estimates of the number of workers expected to be in each age range when all the data about indemnity claims for an injury year is available.



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